

W5YI

National Volunteer Examiner Coordinator

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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WARC-92 TO THREATEN HAM BANDS

On October 1st, the FCC released its first thinking on the position it feels it should take at the upcoming WARC-92. It is officially entitled: **"Second Notice of Inquiry (NOI) Relating to Preparation for the International Telecommunication Union World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum."** WARC-92 is scheduled to be held between February 3 and March 5, 1992 in Spain. The purpose of the NOI is to collect information to be used to prepare a Commission report that will recommend proposals to the U.S. Department of State delegation at WARC-92.

WARC-92 will address the *Resolutions and Recommendations* of three previous ITU conferences, namely, the WARC for the Planning of the High Frequency (HF) bands Allocated to the Broadcasting Service, the WARC for the Mobile Services and the WARC on the use of the Geostationary Satellite Orbit and on the Planning of Space Services Utilizing It. Additionally, the ITU recommended WARC-92 consider defining new space services and allocations to these services in frequency bands above 20 GHz.

The initial NOI (released in 1989) sought comments on these topics and specifically requested comments on the projected frequency needs of the HF (3-30 MHz) broadcasting service, mobile services in the 500-3000 MHz range, high-quality

audio or High Definition Television (HDTV) delivered by the Broadcasting-Satellite Service (BBS) and new space services above 20 GHz.

Approximately 90 comments were received. These came from just about every major corporation and association with an interest in these issues including the National Assoc. of Broadcasters, Voice of America, United Parcel Service, National Academy of Sciences, Motorola, ARRL, COMSAT, NASA, National Public Radio ...and others.

The FCC noted that the steering council of the Industry Advisory Committee (IAC) to WARC-92 submitted a detailed report, based upon information received from its various Informal Working Groups, that offered input to the Second NOI. ARRL Executive Vice President, **Dave Sumner, K1ZZ**, represents amateur radio on that panel.

The 2nd NOI runs to some 150 pages. There are three issues in the NOI that have the potential to greatly impact the U.S. amateur service. Affected could be the 40 meter ham band, and amateur allocations at 420 MHz and 2.4 GHz. The impact is generated by the perceived need for:

- (1.) additional HF broadcasting spectrum, especially at 7 MHz,
- (2.) a home for a Low Earth Orbiting Satellite service, and

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A fourth issue, the need for 900-MHz spectrum to accommodate emerging wireless personal communications such as CT-2 cordless telephones, could conceivably affect the 902-928 MHz. ham band. The FCC did say they were proposing no change in the Mobile Service which has primary shared spectrum in the 860-902/928-942 MHz bands and secondary allocations for mobile services in the 902-928/942-960 MHz bands. About 20-25 MHz is required and it appears more than enough spectrum is available in the primary allocation without affecting 902-928 MHz.

The Commission asked for comments regarding projected frequency needs of the HF broadcast service, the basis for such projections, whether the projected allocations needed to be exclusive, and whether they should be regional or world-wide.

Fifteen commenters expressly support the need for additional spectrum for HF broadcasting. **George Jacobs, W3ASK**, (owner of George Jacobs & Associates, a consulting engineering firm), as well as several other commenters, contend that worldwide HF broadcasting requirements greatly exceed the number of available channels in the spectrum currently allocated.

Jacobs submitted data showing that the ratio of available channels versus needed number of channels for a particular hour in a particular season. The data shows, depending upon band, that the ratio of needed channels to available channels varies from a high of over 5:1 at 6 MHz to a low of 2:1 at 15 MHz.

The Association of North American Radio Clubs (a short wave listening organization) included an ITU report indicating the average ratio of needed to available channels over a 24 hour period at 6 MHz was 8.48:1. Both Jacobs and ANARC conclude that expansion of the current broadcast bands is necessary. Jacobs proposed a new band at 19 MHz and additional band segments in the 6, 7, 9, 11, 13, 15 and 17 MHz bands that are adjacent to

On the other hand, several commenters, including the American Radio Relay League, question the need for additional HF broadcast allocations, especially with the recent political changes in the Soviet bloc. ARRL said that spectrum efficiency would be enhanced through the use of single-sideband (SSB) emissions.

The League also said that some broadcasters use several frequencies simultaneously to increase the probability of reception in their target areas. ARRL states that this practice can be self-defeating because it produces increased co-channel interference and concludes that if broadcasters were to reduce their number of simulcast transmissions, better reception would result.

Inadequate allocations for HF broadcasting have been an issue for many years. Since no new provisions for HF broadcasting were made at WARC-79 in the more popular bands at 6/7 MHz, the U.S. took a formal reservation and reserved its right to take the necessary steps to meet the needs of its HF broadcasting services.

At the time of WARC-79, most HF broadcasting was conducted by the federal government. The Commission only had four licensed private HF broadcasters. There are currently nineteen. The FCC said they were not convinced that the recent political changes in the world have eliminated the need for additional HF broadcasting spectrum.

Jacobs proposes an addition of 450 kHz at 7300-7750 kHz. The FCC recognizes that "The amateur community is also interested in the 7 MHz band. WARC-79 maintained the worldwide amateur service allocation at 7000-7100 kHz as well as the amateur service allocation at 7100-7300 kHz in Region 2. ARRL now proposes to correct what it terms the incompatible allocation at 7100-7300 kHz by allocating the band worldwide for the amateur service and shifting the existing Region 1 and 3 broadcasting allocation to 7300-7500 kHz, also on a worldwide basis. ...ARRL's proposal has merit, except that it fails to add additional

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allocations to broadcasting in Regions 1 and 3 and it provides for an addition of only 200 kHz in Region 2."

The FCC said "We believe that this situation can best be addressed by proposing to make the existing amateur and broadcasting allocations worldwide. In our opinion, the best way to accomplish this is for both allocations to shift somewhat. We propose that the amateur receive 300 kilohertz at 6900-7200 kHz and that the broadcasters receive 200 kilohertz at 7200-7400 kHz. We consider the changes to the amateur allocations to be consequential (important) in nature and thus permissible under the WARC-92 agenda."

"On sharing bands, the majority of commenters agree that it is very difficult for other services to share with the broadcasting service in the HF band because broadcast stations use high power transmitters and highly directional antennas. Commenters generally agree that broadcast allocations should be exclusive and on a worldwide basis."

New HF hobby allocations

In addition, the ARRL proposed that, if the agenda for WARC-92 permits, the United States should pursue the following new amateur allocations: 50-100 kilohertz in the vicinity of 5 MHz, 200 kilohertz near 10.150 MHz, 50 kilohertz near 14.350 MHz, 150 kilohertz near 18.168 MHz and 150 kilohertz near 24.890 MHz.

ARRL also suggested that as propagation changes hour-by-hour, it would be desirable for HF broadcasters to move to real-time, dynamic signal selection methods rather than continue their reliance on propagation predictions and published schedules. According to ARRL, monitoring of reception in the target area for immediate feedback to the broadcaster would reduce interference by deactivating frequencies that cannot be heard in the intended reception area.

Brian Cassidy proposed the creation of an international "Freeband" at 27.410 and 27.970 - between CB channel 40 and the bottom of the ten meter amateur band. Cassidy contends that

thousands of U.S. hobbyists currently operate in this band illegally and contribute much to the economy. Cassidy stated that the band has been used by hobbyists all of the world for over 15 years and that a U.S. allocation would reduce interference problems and improve the hobby.

The FCC ruled ARRL's and Cassidy's "...proposals were not consequential and, therefore, are outside the WARC-92 agenda. Accordingly we will consider them no further." The FCC also believes ARRL's dynamic signal selection suggestion addresses a service-oriented rather than an allocations matter "...we decline to advance this proposal at this time."

Low-Earth Orbiting Satellites

Several firms are interested in obtaining allocations for low earth orbiting (LEO) satellites. This technology, by the way, was pioneered in the amateur-satellite service by AMSAT. Volunteers in Technical Assistance, Inc. (VITA assists third world nations with communications support) is interested in the development and global provision of a low-cost store-and-forward satellite-based packet radio system for computer-to-computer information transfer. Two commercial firms (ORBCOMM and Starsys, Inc.) have already petitioned the FCC to establish an LEO Mobile Satellite Service.

The FCC said they "...believe we should propose allocations to support low-earth orbit satellite systems that represent new technologies." Spectrum, however, is non-existent since it is already allocated at the frequencies requested. The FCC did suggest a secondary allocation for the LEO MSS in the 137-138 MHz and the 148-149.9 MHz bands - just above and below the amateur two-meter band. The Commission believes, however, that a secondary allocation for LEO MSS would not attract the financial and other resources needed for the construction and implementation of an extensive satellite system.

"Therefore, we propose that the bands 420-421 MHz and 930-931 MHz be used for LEO satellites. The 930-931 MHz band would provide the uplink for the 420-421 MHz downlink." The amateur

service operates on a secondary basis between 420-421 in the United States and other countries. "We believe the existing users in the lower one megahertz of the band can be accommodated within the 421-430 MHz band." The FCC seeks comments on this matter. The Commission also acknowledged that the Executive Branch did not agree with using 420-421 MHz for LEO satellite downlink because of the adverse effect on radio-location operations.

Broadcasting-Satellite Service (Sound)

A WARC-92 agenda item will consider the allocation of frequency bands to the broadcasting-satellite service (BSS) in the 500-3000 MHz range. The FCC has been looking into the need for such a service that could be used to provide wide-area high-quality radio service to listeners using portable and automobile receivers.

The League said that sharing spectrum with satellite/digital radio broadcasting "...presents a difficult problem if the receiver can be physically located anywhere and requires a strong signal." The National Association of Broadcasters opposes direct satellite radio broadcasting because of the damage it could do to the current system of local AM and FM radio stations.

The FCC recently issued a separate *Notice of Inquiry* seeking comment concerning BSS (Sound) or digital audio broadcasting (DAB). While it remains to be resolved, it appears that a satellite or terrestrial DAB service would be in the public interest.

"The question of where to locate this service is not an easy one given the debate among the commenters. Besides where to locate the spectrum, there is also some question as to the amount of spectrum that is required for BSS (Sound) with a complementary terrestrial broadcasting service. Matters are further complicated by the question of whether or not BSS (Sound) can share with other services."

Studies have shown that up to 100 MHz of spectrum would be required for BSS (Sound) including accommodation of terrestrial sound broadcasting

within the same allocation.

Three specific RF bands have been proposed by the FCC as the future home of satellite/terrestrial digital radio. The Commission is bracing itself for the criticism that is sure to follow. The situation is similar to constructing new prisons. Everyone agrees they are needed - but, please, not in my back yard.

The three bands the Commission is looking at as the home for digital radio broadcasting is 728-788 MHz, 1493-1525 MHz and 2390-2450 MHz. The last band is a ham band which will prove very valuable to the amateur service as satellites become commonplace. Two of the three options impact the amateur and amateur-satellite services.

The international Radio Regulations provide for a Television Broadcasting Satellite Service in the UHF-TV spectrum between 620-790 MHz. Television broadcasters, however, are opposed to a hybrid satellite/terrestrial DAB service at 728-788 MHz (channels 57-66) since they say they need this spectrum to implement high definition television. The FCC has a long-standing freeze on the allocation of new UHF television stations pending the expected selection of a land-based HDTV system in 1993. The FCC also mentions a BSS(Sound)/UHF-TV coordination problem with Canada and Mexico if 728-788 MHz is chosen.

The second option focuses on the 1435-1530 MHz band which is used heavily for aeronautical mobile telemetry. The FCC proposes to reallocate 32 megahertz (1493-1525 MHz) to BSS (Sound) and terrestrial broadcasting. Flight test and aeronautical telemetry operations would then be reallocated to the 2390-2420 MHz band. The displaced amateur and amateur-satellite band would be reaccommodated only above 2420 MHz. The ISM band would be reduced to 2420-2480 MHz.

The 2300-2450 MHz band is internationally allocated to the Fixed, Mobile and Radiolocation Services with Amateur secondary. In the United States 2450 MHz (plus/minus 50 MHz) is designated for ISM, industrial, scientific and medical devices. Many microwave ovens and medical

diathermy units churn away at 2.45 gigs.

Ham radio operators use the 2300-2310 MHz and 2390-2450 MHz segments only on a secondary basis. The third option would be to reallocate the 2390-2450 MHz band to the Broadcasting Satellite Service (Sound) with a corresponding terrestrial broadcasting service. All other services (including ham radio) would be vacated except ISM equipment. The ISM allocation would be reduced to 2420-2480 MHz, i.e. still 2450 MHz center frequency, but with only a 30 MHz guard band on either side.

This third option proposes to retain the 2300-2310 MHz amateur secondary allocation only. This means that the U.S. amateur service would lose another valuable band, 2390-2450 MHz, and would receive nothing in return. The FCC seeks "...comments on the feasibility of using the 2390-2450 MHz band for BSS (Sound)..."

Morse code going, Engineers next?

As you know, Morse code proficient radio officers aboard ocean-going vessels are in the process of being phased out. The international requirement for on-board maintenance of shipborne radio and electronic equipment may be next. ITU rules (to which the United States has taken exception) mandate on-board maintenance personnel certified to maintain such equipment.

The Radio-Electronics Officers Union and the American Radio Association (another shipboard radio operator's organization), of course, both oppose such a measure. The Commission believes the most effective means of maximizing equipment availability is by duplication-of-equipment as occurs with avionics installed on aircraft.

Comments are due by December 3, 1990, replies January 7, 1991. General Docket 89-554 by Second NOI [FCC 90-316], adopted September 19 by the Commission. Released: October 1, 1990. Comments go to: Office of the Secretary, Federal Communications Commission, Washington, DC 20554. Be sure to mention **General Docket 89-554, Second Notice of Inquiry** so that your comments will be placed in the correct file.

AMATEUR RADIO CALL SIGNS

...issued as of the first of October 1990:

| Radio District | Gp.*A* Extra | Gp.*B* Advan. | Gp.*C* Tech/Gen | Gp.*D* Novice |
|----------------|-----------------|------------------|--------------------|------------------|
| 0 (*) | AA0BZ | KF0MW | N0MLS | KB0HOR |
| 1 | WK1F | KC1WY | N1IAV | KA1WLE |
| 2 (*) | AA2BI | KE2WH | N2LGM | KB2LEZ |
| 3 | WE3T | KD3TW | N3IOB | KA3WXD |
| 4 (*) | AB4ZC | KN4PF | (***) | KC4TGW |
| 5 (*) | AA5UU | KI5JP | N5RJM | KB5NUY |
| 6 (*) | AA6YE | KK6QF | (***) | KC6ODO |
| 7 (*) | AA7GI | KG7IS | N7PQH | KB7LRZ |
| 8 (*) | AA8CG | KF8JJ | N8MXY | KB8KSH |
| 9 | WV9Q | KE9ZF | N9KDV | KB9FNS |
| N.Mariana Is. | AH0I | AH0AG | KH0AM | WH0AAO |
| Guam | KH2N | AH2CH | KH2EP | WH2AMS |
| Johnston Is. | AH3C | AH3AD | KH3AD | WH3AAG |
| Midway Is. | | AH4AA | KH4AD | WH4AAH |
| Hawaii | (**) | AH6KP | NH6XP | WH6CJC |
| Kure Is. | | | KH7AA | |
| Amer. Samoa | AH8D | AH8AE | KH8AI | WH8AAZ |
| Wake W.Peale | AH9A | AH9AD | KH9AE | WH9AAH |
| Alaska | (**) | AL7MK | NL7UZ | WL7BZK |
| Virgin Is. | NP2H | KP2BU | NP2DX | WP2AHF |
| Puerto Rico | (**) | KP4RB | WP4ZC | WP4JLN |

CALL SIGN WATCH: * = All 2-by-1 call signs have been assigned in the 2nd, 4th, 5th, 6th, 7th, 8th and "0" radio districts where 2-by-1 format call signs from the AA-AK prefix block are now being assigned to Extra Class amateurs. (Other than DX, only the 1st, 3rd and 9th district have 2-by-1's left!)

** = All Group A (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. Group "B" (2-by-2) format call signs are assigned to Extra Class when Group "A" are depleted.

*** = Group "C" (1-by-3) call signs have now run out in both the 4th and 6th call districts. According to the rules (adopted by the Commission Feb. 8, 1978, Docket No. 21135), Technician/General class amateurs are next assigned Group "D" (2-by-3 format) call signs when all Group "C" have been assigned. Upgrading Novice amateurs holding a 2-by-3 format call sign in the 4th and 6th call areas will no longer be able to request a 1-by-3 and will be automatically assigned another more recent 2-by-3 format call sign if they do! The FCC has steadfastly said they will not be going back and reassigning unused "K" and "W" 1-by-3 format call signs.

[Source: FCC, Gettysburg, Pennsylvania]

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FCC TO PUSH AHEAD WITH HANDICAP WAIVERS

Beverly Baker, Acting Chief, Private Radio Bureau, denied ARRL's request for comment extension to Nov. 15, saying in an Order released 9/28/90 that: "Consistent with the purpose of the *Americans in Disabilities Act of 1990*, which provides, among other things, a comprehensive national mandate for the elimination of discrimination against individuals with disabilities, it is important for individuals with severe handicaps to know as soon as possible whether there will be greater accessibility to the higher grade amateur service licenses. This proceeding, therefore, should be concluded with all due dispatch." The comment period on PR Docket 90-356 closed on schedule on Sept. 24.

For 20 years, **Bruce Humphrys, KØHR**, has been the Director of the Minnesota based *Courage Handi-Hams System*. Handi-hams specializes in helping persons with disabilities enter the ham radio hobby. Humphrys' comments he is "...a fervent proponent of the International Morse Code as a communications technique and art form" and is opposed to the FCC's practice of granting telegraphy waivers to persons with disabilities.

"If the applicant has a true desire to master Morse Code, there are methods to help him/her accomplish that task; and once mastered, becomes a beacon of pride which plays a significant part in their lives. ...as a rehabilitation professional I am opposed to lowering the standards for everyone to accommodate a few..." Humphrys proposes a "sliding scale code exam" with a different number of correct, fill-in-the-blank answers needed to pass. The pass rate is based upon each applicant's level of functional disability tied directly to a diagnosis as defined by the International Code of Diagnosis (ICD-9) used by the medical/rehabilitation profession. To implement, the VEC's should establish a board made up of medical/rehabilitation authorities, disabled ham operators and VECs who would rank the disabilities and generate a list of six groups which becomes the determinant for a passing grade in a code exam which would range from 40% to 70%.

The ARRL commented that the waiver policy is not needed in view of the FCC's authority to grant rule waivers in specific cases and the newly implemented flexible examination administration procedures. The League maintains the definition of "severely disabled" is overbroad, that doctors are not capable of determining whether a disabled person can pass a telegraphy examination and there are not sufficient safeguards against abuse. ARRL also suggests a panel of experts to determine telegraphy exemption eligibility.

AUGUST AMATEUR LICENSING STATISTICS

| <u>August</u> | <u>1987</u> | <u>1988</u> | <u>1989</u> | <u>1990</u> |
|-------------------|-------------|-------------|-------------|-------------|
| New | | | | |
| Amateurs: | 918 | 1386 | 1488 | 1089 |
| <u>Upgrading:</u> | | | | |
| Novices | 1160 | 1260 | 1190 | 1209 |
| Technicians | 303 | 389 | 391 | 503 |
| Generals | 263 | 304 | 272 | 334 |
| Advanced | <u>227</u> | <u>250</u> | <u>182</u> | <u>232</u> |
| Total: | 1953 | 2203 | 2035 | 2278 |

Renewals: (*)

| | | | | |
|--------------|------|------|-------|------|
| Total Renew: | 2521 | 3220 | * 214 | * 40 |
| Novices | 137 | 283 | * 31 | * 10 |

Purged: (*)

| | | | | |
|----------------|------|------|------|------|
| Total Dropped: | 2020 | 1450 | 1835 | 1507 |
| Novices | 1448 | 738 | 854 | 776 |

Census:

| | | | | |
|---------------------|---------------|---------------|---------------|---------------|
| Indiv. Oper. | 429678 | 436705 | 463172 | 491670 |
| Change/Year | +8601 | +7027 | +26467* | +28498* |

Individual Operators by Class: (and % of total)

| <u>Extra</u> | <u>Advan.</u> | <u>General</u> | <u>Technic.</u> | <u>Novice</u> | <u>Total:</u> |
|--------------------|---------------|----------------|-----------------|---------------|---------------|
| <u>August 1987</u> | | | | | |
| 42914 | 98114 | 114737 | 90675 | 83238 | 429678 |
| 10.0% | 22.8% | 26.7% | 21.1% | 19.4% | 100.0% |

August 1988

| | | | | | |
|-------|-------|--------|-------|-------|---------------|
| 45909 | 98282 | 113068 | 98944 | 80502 | 436705 |
| 10.5% | 22.5% | 25.9% | 22.7% | 18.4% | 100.0% |

August 1989 (*)

| | | | | | |
|-------|--------|--------|--------|-------|---------------|
| 49275 | 101311 | 116289 | 111708 | 84589 | 463172 |
| 10.6% | 21.9% | 25.1% | 24.1% | 18.3% | 100.0% |

August 1990 (*)

| | | | | | |
|-------|--------|--------|--------|-------|---------------|
| 52700 | 104222 | 119038 | 124778 | 90932 | 491670 |
| 10.7% | 21.2% | 24.2% | 25.4% | 18.5% | 100.0% |

| | | | | | |
|----------------------|---------------|---------------|---------------|---------------|--|
| Club/ | | | | | |
| RACES & | (1987) | (1988) | (1989) | (1990) | |
| Military: | <u>2443</u> | <u>2319</u> | <u>2472</u> | <u>2444</u> | |
| Total Active: | 432121 | 439024 | 465644 | 494114 | |
| % Increase | +2.0% | +1.6% | +6.1%* | +6.1%* | |

Adjusted Growth is actually a decrease!

(*) **NOTE:** The number of amateurs in 1989 and 1990 is not comparable with prior years. Due to the implementation of the 10-year term license in 1984, amateurs who would ordinarily be dropping out of the Amateur Service between 1989 and 1993 by not renewing will be carried on the amateur roles for another five years before being purged from the FCC's data base. This has the effect of greatly overstating the amateur census for 1989 and 1990 since the records of silent keys and non-renewals will not be deleted. The alarming trend of negative growth in the number of U.S. ham radio operators continues!

[Source: FCC Licensing Facility, Gettysburg, PA]

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FAST & FURIOUS...

● **Richard Burton, ex-WB6JAC**, of Harbor City, CA was sentenced by Judge Robert M. Takasugi on Oct. 1st to one year probation, a \$2,000 fine and continuing psychiatric care. He was found guilty by a Los Angeles jury on July 18th of operating a two-meter amateur radio without a license for a second time, a felony. Burton had previously served 7 months in prison for the same offense in 1982.

● The FCC has denied the petition (assigned RM-7247) of **Michael Bilow, N1BEE**, Cranston, RI, seeking to replace the limitations on digital frequency shift communications transmitted above 50 MHz with a bandwidth standard.

● **Thomas M. Haynie** of Virginia Beach, VA, has been **convicted of intentional satellite interference** and unauthorized operation of an uplink transmitter. Haynie, an employee of the Christian Broadcasting Network, used CBN's equipment to send a biblical message urging repentance over riding "The Playboy Channel" and the "American Exxxtasy" (as in triple X) adult programming. Haynie himself now faces one year of repentance and a \$100,000 fine. He will be sentenced December 7th.

● **Victor E. Ruiz** of Los Banos, CA, was fined \$1,000 on Sept. 26th for **operating an unlicensed FM radio station** called "KJAM." The FCC's San Francisco office previously shut down the pirate station operating on 90.7 MHz. "KJAM" is assigned to a broadcaster in Madison, South Dakota.

● The FCC is in the process of converting to a **private contractor supported forms** distribution system. Some forms will be stocked in the Services and Supply Branch,

in Washington, D.C. - others will be distributed from the FCC Warehouse Facility located in Hyattsville, MD. Large orders of forms may be requested by filling out FCC form 207. Information available from Scottie Dobson, 202/634-1778. We assume small quantities of FCC Form 610 applications will still be available from Gettysburg, PA.

● The ARRL has submitted comments on **establishing new Personal Communications Services (PCS)** such as advanced cordless telephones and portable radio systems for personal use (General Docket 90-314). The comments were filed on the same day (Oct. 1) that the FCC released the Second NOI on WARC-92. (See page 1 story.)

The League cautions the FCC not to allocate the choicest spectrum for first and second generation equipment when they are simply a stepping stone to the third generation. The League said it was especially concerned about the 2300-2310 MHz and 2390-2450 MHz band since the Amateur Service must continue to have access to spectrum sufficient to carry out its service objectives now and in the future.

"Like all other services, the amateur services have migrated to higher frequencies over the years, for several reasons: necessity, development of new system applications, and technical opportunity. ...The 2300-2310 MHz and 2390-2450 MHz segments are the remainder of what was until recently a contiguous amateur band of 2300-2450 MHz."

The League says hundreds of experimental stations operate in the lower part of the 2300-2310 MHz segment and there are several amateur satellites operating in the segment just above 2400 MHz. Amateur-satellite use of the 13-cm band is permitted only in the band 2400-2450 MHz in accordance with

footnote 664 of the international Radio Regulations. The fact that 2400-2450 MHz is an industrial, scientific and medical (ISM) band, and that many domestic microwave ovens operate on the center frequency of 2450 MHz, makes the 2400-2450 MHz band increasingly difficult to use as the upper frequency limit of 2450 MHz is approached. For this reason, amateur-satellite frequency usage has been concentrated just above 2400 MHz. The amateur service is relying upon access to the 13-cm band for widespread packet radio networking at T-1 speeds (1.544 Mbit/s) and higher. Bandwidth sufficient to support a nationwide system is not available in the amateur bands below 2300 MHz."

"Accordingly, ...the American Radio Relay League, Inc., respectfully requests that, regardless of the determination of the desirability of creation of new PCS systems, no amateur bands, including 902-928 MHz, 2300-2310 MHz or 2390-2450 MHz, be considered for primary or secondary allocation for PCS use, or for reaccommodation of displaced users from any spectrum reallocated for PCS use."

[As covered earlier in this issue, the FCC is considering the 13-cm ham band for a new Digital Audio Service!]

● **Dr. Michael C. Trahos, KB4PGC**, of Alexandria, VA, emphasizes in his comments on PCS that the radio spectrum has become a valuable resource.

"Underutilized spectrum must be put to maximum use." ...Since the ARRL is not willing to adopt or support proposals, such as the no-code Novice license proposed in RM-6990, that would greatly increase the ranks in and justify the enormous spectrum currently enjoyed by Amateur Radio of 69 MHz of VHF/UHF spectrum for approximately 425,000 licensees or 1.62

MHz per 10,000 amateur operators versus .11 per 10,000 private land mobile operators, then the only alternative is to reallocate this spectrum for more spectrum efficient use such as a CT-2 PCS. Reallocation of the amateur subbands 1260-1270 and 1288-1294 MHz will require a change in the *Table of Allocations* for Region 2. This can be accomplished at the 1992 World Administrative Radio Conference."

"...The concept of reallocating the 1.2 GHz band for non-amateur radio uses did not originate with this commenter. It was first proposed in 1986 by Mr. James E. McNally [WB3APV], then of the Commission's Office of Plans and Policy."

"In his Working Paper 20, Mr. McNally correctly noted that: *'Currently, the Amateur Radio Service is authorized the use of 26 MHz of spectrum in the 902-928 MHz band and 85 MHz in the 1215-1300 MHz band. While the latter band is high in relative frequency, all of this spectrum is still in the UHF range, and relatively affordable equipment is available for direct and repeater-type operation. The Commission may want to consider allocating part of this spectrum for personal non-amateur use, or create a combined amateur/personal radio service operating in this spectrum.'*"

Dr. Trahos is a physician/surgeon and a telecommunications engineer. (Comments received by the Private Radio Bureau on 9/28/90)

- The FCC has issued a \$1,000 *Notice of Apparent Liability to Monetary Forfeiture* to **Gordon N. Skul, WB9BCL**, of Crete, IL, for willful interference to ongoing communications on 14.205 MHz on three difference occasions during September.

In a Sept. 25th letter, Skul denies the allegations and requests a hearing if the fine is not canceled.

The Kingsville, Texas, FCC monitoring office has sent an *Official Notice of Violation* to **Lloyd S. Montcalm, WA2EXQ**, of Hyannis, MA, for transmitting "...uninterrupted CQ calls in excess of 8 minutes in duration" on Sept. 13.

The FCC intercept charges Montcalm repeatedly made the following announcement on 14.300 MHz: "This is WA2EXQ, Net Control for the Radio Amateur Telephone and Telegraphy Communications Network. This net promulgates information regarding the telephone and business type of communications occurring daily on our amateur frequencies and the corrective actions that must be taken to stop them."

- We picked up a copy of the transcript that the Belfast, Maine, FCC Monitoring Office made on **Glen A. Baxter, K1MAN**, on Sept. 1. The FCC said Baxter was apparently liable for a fine of \$1,000 for interfering with amateur communications already in progress (KV4FZ was in contact with WB4GDP on 14.275 MHz) ...and another \$500 for engaging in broadcasting during August and September 1990 on 3.975, 14.275 and 28.475 MHz.

The intercept indicates that Baxter said his 45 minute transmissions were "broadcasts" and part of the broadcasts were specifically directed at non-amateurs (short-wave listeners).

Included were pitches for the Miami-based RadioScan Magazine and the Amateur Peace Corps. The FCC intercepted Baxter saying that he made one-hundred-seven single-sideband broadcasts a week.

- *Canada is going ahead with Deregulation of Mode Subbands* after all. Effective October 1st, Canadian amateurs may use any mode or emission on any amateur frequency. A 6 kHz bandwidth is

allowed on 160, 75/80, 40, 20, 17, 15 and 12 meters; 1 kHz on 30 meters; 20 kHz on 10 meters, 30 kHz on 6 and 2 meters, 100 kHz on 220-225 MHz, and 12 MHz on 430-450 and 902-928 MHz. (The 12 MHz bandwidth was approved on the basis that it is difficult to filter ATV vestigial sidebands.) The maximum bandwidth is "Not Specified" above 1.215 GHz.

The new *Canadian Mode Deregulation* will allow amateurs to use new technologies as soon as they become available without waiting for DOC regulations to implement them.

- Marissa, Illinois, amateur, **Bob Heil, K9EID**, owner of Heil Sound has been named **Satellite Dealer of the Year** by the SBCS, *Satellite Broadcasting Communications Association* of Alexandria, VA.

- The *Louisiana Public Service Commission* (Tel. 318/226-7464) has directed South Central Bell to file new tariffs changing their charges to amateur radio groups from commercial to residential.

The *Public Utility Commission of Texas* (Tel. 512/458-0100) advises that Southwestern Bell will also bill any amateur auto patch services at residential rates. Any change in this policy will require a petition and review by the Texas PUC.

- Ms. Janet Whitney of Alexandria, VA, has petitioned the FCC to *expand the ten meter subband* available to Novice and Technician amateur licensees to 28000-29300 kHz/data ...and 28300-29300 kHz/phone. She contends the existing subbands are badly congested.

- Despite \$44 million in losses, the TBS Board has given the green light to the *1994 Goodwill games*. It is anticipated that the World RadioSport amateur radio competition will continue.

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ON-LINE VIDEOTEX SERVICE GOES NATIONAL

After two years of evaluation and refinement, **Prodigy Interactive Personal Services** announced last month that is now the nation's first coast-to-coast system linking families to information and various on-line services for a flat fee. Prodigy is the IBM/Sears information videotex joint venture headquartered in White Plains, New York.

Prodigy began in 1984 as *Trintex* with a third partner, CBS who dropped out after two years. Sears and IBM have already invested more than \$600 million in Prodigy and expect to pour in \$1 billion into the electronic magazine before breaking even! A massive advertising mailing was recently completed publicizing their service and a Prodigy insert is planned for the October 15th issues of Time, Sports Illustrated, People and Money. Prodigy plans to spend some \$20 million this year promoting its videotex service. It is playing for keeps.

More than 460,000 members already tie into Prodigy which is available by dialing a local (and almost always free) phone number. All that is needed is an IBM compatible (or a Macintosh) computer (512K memory), a Hercules-equivalent graphics card, and a 1200 or 2400 baud Hayes compatible modem. Also needed is at least one floppy drive and the Prodigy startup kit containing the software and instructions. A printer and a mouse is desirable, but not required. Some home computers (including the new IBM PS/1) and communications programs are even being marketed with the Prodigy software already included at no extra charge.

The software was recently updated to version 3.1 to allow access to dozens of new features. Prodigy costs \$12.95 a month ...up from \$9.95. You can still get the old \$9.95 monthly price, however, by paying \$119.40 at one time. A two year subscription is \$199.95 (\$8.33 month.) There are no additional per hour fees, on-line connection charges or long distance rates to pay.

All other competing computer information services such as The Source, CompuServe, Dow Jones or GENie start the meter running when you log on. The Prodigy software and startup kit is available

from thousands of outlets including Sears, ComputerLand, Radio Shack, and Waldenbooks. A special toll-free information number is also available: 1-800-PRODIGY.

The national roll-out means that 60 million Americans who have access to PCs in their homes or offices can immediately join. Viewtron, the nation's first home information utility had only 20,000 subscribers when Knight-Ridder finally pulled the plug in 1986. Prodigy's goal is to ultimately serve 10 million households across the nation and already has hooked up nearly half a million! Their timetable calls for one million subscribers by mid-1991. Two years ago they only had 50,000 subscribers!

Basically Prodigy is a network that allows subscribers at home to get information from a number of sources over their telephone including shop-at-home and electronic mail. Prodigy is to video what *USA Today* is to a newspaper - except that it is interactive. More than a hundred writers and editors work full time in White Plains to insure that Prodigy members get news quick and are able to access more than 500 services, many of which require constant updating. Some of the services are extremely novel and very useful. Since we are a writer, Prodigy supplied us with a complimentary start-up kit a couple of weeks ago and asked us to try it. We have been "playing" with the service ever since. It is kind of fun!

The available services are mind-boggling! We particularly like the American Airline Sabre airline reservation system (complete with an on-line tutorial), the 21-volume Grolier's encyclopedia and the stock quote "Track" feature. We were able to easily determine the lowest air fares to Indianapolis from Dallas one evening (Continental Airlines via connection in Houston), get a printed write-up on the life Samuel F.B. Morse from the American Academic Encyclopedia and quick quotes on our stock portfolio.

You simply tell Prodigy's computer the securities you wish to follow. (Quotes are delayed 15 minutes during trading hours.) You access either of two user-programmed securities lists calling up either list 1 or list 2 from a menu. Security

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purchases may be made on-line through a discount broker if you wish.

Your credit card (VISA, MasterCard, Discover or American Express) is entered into the American Airlines computer and any airline flights ordered are ticketed and mailed immediately. An on-line travel service is available if you feel more comfortable with one. Although it hasn't arrived yet, my wife ordered a product from Speigel's in Chicago. Even full-color weather maps designed for your area can be displayed on your screen.

It would be absolutely impossible to list all the services available ...each with very colorful graphics - and we won't try. A typical session requires you to enter your ID number and password which you assign. You are immediately notified of any new electronic mail (30 free letters a month). By hitting the "P" key you are taken to the PATH, your personal list of the categories you wish to see at each session including scanning the news and sports headlines if you wish.

Small "teaser" ads appear at the bottom of most screens. These are on-line advertisements. To obtain more information, you type in the letter "L" (for Look). Prodigy sells advertising space just like magazines and newspapers and is the only videotex firm that I have heard of that does. Over 200 companies including J.C. Penney, K-mart and American Express have signed up as advertisers. You make a purchase by pressing the "action" key and your credit card is charged. Advertisers are charged on a cost-per-thousand basis instead of by the number of household members.

Perhaps its best feature is its simplicity. There is no huge documentation to search through. In fact there are very few instructions, period! Only a list of (access) phone numbers, a one page "How to get started", an alphabetized JUMPword listing and a small 1/4" thick (five inch square) Handbook (which I have yet to look at.) All you really have to know is to place disk one in a floppy drive and type A:install. That gets you going and just follow the screens and menus from that point on.

JUMPwords allow quick access to all of the features on the Prodigy service (or you can trudge

through the on-line menus if you prefer.) For example, if you want a list of auto and product recalls, the JUMPword to type in is "cr recalls" (for Consumer Reports recalls). Want to earn a college degree online? The JUMPword is "** univ phoenix". The winning numbers to every state lottery is available through JUMPword: "lotteries." To order from Sears, Roebuck & Co., the JUMPword is simply: "sears."

Prodigy estimates that more than 60,000 goods and services are available on-line. Even the popular "Where in the World is Carmen Sandiego" computer game is there, as are the latest jokes, recipes, special interest groups to join, health information, daily horoscopes, soap opera updates, AP headline news, on-line grocery shopping (with home delivery or curbside pickup), 25,000 movie reviews, daily commentaries on finance, fashion, travel, wine, politics, gardening ...you name it! There are even interactive on-line advice columnists on many subjects. You can rent cars, send flowers...

Personal information is a gigantic market. Prodigy hopes to change peoples habits. Today, data is 95% paper and 5% electronic. As kids become computer literate and PCs become cheaper are in wider distribution, Prodigy hopes to be the leading supplier of consumer information. They already have a service worth looking into. Its only bad point (in my opinion) is that it is frequently slow to change from one screen to the next. I expected lightning fast action. I spent a lot of time watching the "working" light indicating Prodigy was searching its innards for my data.

The Wall Street Journal recently named Prodigy as one of sixty-six corporate stars of the future "...poised to lead business into the 1990's" ...the only on-line service that was named among them. It would seem that it can't miss and Prodigy is still only in its infancy.

A software enhancement, due by the year's end, will let users download bank statistics, stock quotes and Dow Jones averages directly to their personal computer based spreadsheet. We intend to stay on-line for a few more months. The novelty (and usefulness) has not yet worn off.